

REMARKS

In the Office Action, claims 1-65 were rejected. Claim 50 was objected to. By the present Response, claims 1, 27 and 43 are amended and claim 25 is canceled. Upon entry of the amendments, claims 1-24 and 26-65 will remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

Objection To The Claims

In the Office Action, the Examiner objected to claim 50 under 37 C.F.R. 1.75(c), as being of improper dependent form for failing to further limit the subject matter of the claim from which it depends. Applicants respectfully disagree with the Examiner. Dependent claim 50 recites an apparatus comprising “a *memory*, and wherein the first selected frame and the second selected frame comprise *logarithms* of intensities of a first image and of a second image, respectively, stored in the memory.” (Emphasis added.) Applicants note that neither the claimed memory nor the claimed logarithms of intensities are recited by independent claim 43, which does not contain any subject matter pertaining to the manner in which intensities of the first and second images are stored. Hence, claim 50 clearly limits the scope of independent claim 43, rendering claim 50 proper under 37 C.F.R. 1.75(c). Accordingly, Applicants request the Examiner to withdraw the objection to claim 50.

Rejections Under 35 U.S.C. § 112

In the Office Action, the Examiner rejected claim 25 under 35 U.S.C. § 112, first paragraph as reciting a term not supported in the specification. Accordingly, Applicants have canceled claim 25 in order to overcome the rejection.

Rejections Under 35 U.S.C. § 102

In the Office Action, claims 1-7, 9, 11, 14-17, 21-32, 32, 34, 36-48, 50, 52, 55-58 and 61-65 were rejected under 35 U.S.C. § 102(e) and (a) as being anticipated by Close et

al. (U.S. Patent No. 6,532,380, hereinafter referred to as "Close"). Applicants respectfully traverse the rejection.

Anticipation under 35 U.S.C. § 102 requires a showing that each limitation of a claim is found in a single reference, practice or device. *In re Donohue*, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985).

Applicants respectfully submit that the rejection of independent claims 1, 27 and 43 under Section 102 is improper because the prior art reference used to reject the claims does not disclose each and every element of the claims. For example, independent claims 1 and 27 recite "locating the marker object in a first selected *undecomposed* frame of the series of image frames," and "utilizing the template of the marker object to estimate a location of the marker object in a second selected *undecomposed* frame of a series of image frames." (Emphasis added.) Independent claim 50 recites similar subject matter. Accordingly, the techniques recited by the present claims employ undecomposed frames for locating the marker object.

In contrast, Close teaches a method for tracking an image "using the moving layer decomposition technique." *See*, Close, col. 6, lines 13, 14. Hence, in Close the tracking of the image is achieved by decomposing a time series of images into multiple moving transparent layers. Close specifically teaches that "[a]s each new layer density is computed, previous layer density estimates may be improved by subtracting the density of the new layer." *See*, Close, col. 6, lines 62, 63. Thus, in Close, decomposition is clearly a salient feature which forms the basis for processing the time-series images. This is clearly distinct from the claimed subject matter which does not rely on decomposing a time series of images into layers and, in fact, utilizes *undecomposed* frames in locating the marker object. In other words, Close can not and does not disclose locating the marker object in a first selected *undecomposed* frame of the series of image frames. Consequently, Close can not disclose utilizing the template of the marker object to

estimate a location of the marker object in a second selected *undecomposed* frame of a series of images, as recited by independent claims 1, 27 and 43.

For at least these reasons, Applicants request the Examiner to withdraw the rejection of independent claims 1, 27 and 43, as well as, the rejection of those claims depending therefrom. Accordingly, Applicants request the Examiner to allow independent claims 1, 27 and 43, as well as, claims dependent thereon.

Rejections Under 35 U.S.C. § 103


In the Office Action, claims 8, 10, 12, 13, 18-20, 33, 35, 49, 51, 53, 54, 59 and 60 were rejected under 35 U.S.C. § 103(a) over Close in view of other secondary references. Applicants respectfully submit that claims 8, 10, 12, 13, 18-20, 33, 35, 49, 51, 53, 54, 59 and 60 are allowable based on their dependencies from independent claims 1, 27 and 43. Moreover, the secondary references cited by the Examiner do not cure the deficiencies described above with regard to Close. For at least these reasons, claims 8, 10, 12, 13, 18-20, 33, 35, 49, 51, 53, 54, 59 and 60 are believed to be allowable over the cited references taken alone or in combination with each other. Thus, the Applicants respectfully request withdrawal of the rejection of claims 8, 10, 12, 13, 18-20, 33, 35, 49, 51, 53, 54, 59 and 60 under Section 103.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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Patrick S. Yoder
Reg. No. 37,479
FLETCHER YODER
P.O. Box 692289
Houston, TX 77269-2289
(281) 970-4545